Listing of Claims:

1. (Currently amended) A method of correcting a robot arm positioning error, the robot arm being operatively connected to an end effector that is operatively coupled with a specimen, the method comprising:

providing an end effector having a body including a light source and a light receiver having spaced-apart respective source light path and receiver light path openings between which a light beam propagates along a straight line light transmission pathway, which is employed to determine positions of the end effector relative to the specimen;

determining a robot arm old position;

recording old position information corresponding to the old position;

~~retrieving~~ using the end effector to retrieve the specimen from the old position ~~with the end effector~~;

employing the old position information to replace the specimen at a new position that is ideally the same as the old position;

determining the robot arm new position;

recording new position information corresponding to the robot arm new position; and

generating [[a]] correct position information by processing the new position information and the old position information.

2. (Currently amended) The method of claim 1, further including determining a difference between the new position information and the old position information to determine [[a]] position error information, and in which the generating [[a]] correct position information includes processing the position error information and the old position information.

3. (Currently amended) The method of claim 1, further including determining a difference between the new position information and the old position information to determine [[a]] position error information, and in which the generating [[a]] correct position information includes adding about twice the position error information to the old position information.

4. (Currently amended) The method of claim 1, in which the generating [[a]] correct position information is carried out successively.

5. (Original) The method of claim 1, in which the processing includes vectorially combining the new position information and the old position information.

6. (Currently amended) The method of claim 1, further including ~~retrieving~~ using the end effector to retrieve the specimen from the new position ~~with the end effector~~, and employing the correct position information to replace the specimen at a correct position.

7. (Currently amended) The method of claim 1, in which the specimen further includes a periphery, and the determining the robot arm old position and the determining the robot arm new position ~~entails~~ entail finding a minimum distance between a reference and the periphery of the specimen.

8. (Currently amended) The method of claim 7, in which the determining the robot arm old and new positions each includes:

finding for a first robot arm position a first maximum robot arm distance between the reference and a first corresponding point on the periphery of the specimen at which the light transmission pathway of the light beam is not interrupted by intersection with the specimen;

finding for a second robot arm position a second maximum robot arm distance between the reference and a second corresponding point on the periphery of the specimen at which the light transmission pathway of the light beam is not interrupted by intersection with the specimen, the first and second robot arm positions being different from each other;

recording first and second position information corresponding to the respective first and second maximum robot arm distances; and

determining from the first and second position information a robot arm aligned position that represents the minimum distance between the reference and the periphery of the specimen.

9. (Original) The method of claim 8, in which the robot arm is positionable about a shoulder axis and along an r-axis path intersecting the shoulder axis, in which first and second robot arm positions constitute respective first and second robot arm angular positions, and in which the finding of the first maximum robot arm distance includes:

positioning the robot arm along the r-axis path until the specimen interrupts the light transmission pathway with the robot arm set to the first robot arm angular position; and

upon the interruption of the light transmission pathway with the robot arm set at the first robot arm angular position, positioning the robot arm along the r-axis path to find the first point on the periphery of the specimen and record the first information corresponding to the first maximum robot arm distance at the first point.

10. (Original) The method of claim 9, in which the shoulder axis constitutes the reference location.